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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,682	03/26/2001	Liang-Gi Yao	JCLA5662-CIP	8760
23900	7590	06/27/2005	EXAMINER	
J C PATENTS, INC.			LEE, EUGENE	
4 VENTURE, SUITE 250			ART UNIT	
IRVINE, CA 92618			PAPER NUMBER	

2815

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

413

Office Action Summary	Application No. 09/817,682	Applicant(s) YAO ET AL.	
	Examiner Eugene Lee	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/521,021.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/25/05 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

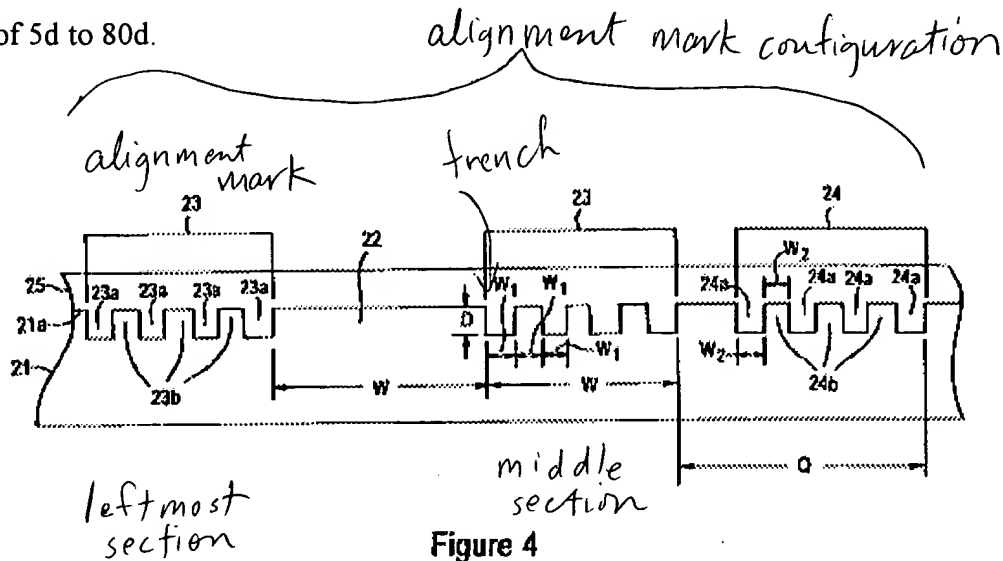
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Kepler et al. 6,037,671. Kepler discloses (see, for example, Figure 4) an alignment mark configuration comprising a leftmost section (alignment mark) 23, and a middle section (trench) 23. The middle section (trench) does not belong to the leftmost section (alignment mark). The leftmost section contains first trenches (plurality of recesses) 23a separated by a spacing 23b. In column 5, lines 10-17, Kepler discloses the spacing as w1 (d) and equaling about .375 um. In column 4, lines 46-48, Kepler states that the distance W (the distance between the leftmost section and the

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middle section) is 8 μm . Therefore the distance W is $21.3W_1$ ($21.3d$), which clearly falls within the range of $5d$ to $80d$.



Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 thru 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kepler et al. 6,037,671. Kepler discloses (see, for example, Figure 4) an alignment mark configuration comprising a leftmost section (alignment mark) 23, and a middle section (trench) 23. The middle section (trench) does not belong to the leftmost section (alignment mark). The leftmost section contains first trenches (plurality of recesses) 23a separated by a spacing 23b. In column 5, lines 10-17, Kepler discloses the spacing as w_1 (d) and equaling about $.375 \mu\text{m}$. In column 4, lines 46-48, Kepler states that the distance W (the distance between the leftmost section and the

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middle section) is 8 um. Therefore the distance W is $21.3W1$ ($21.3d$), which clearly falls within the range of $5d$ to $80d$. Kepler does not disclose the recess having a width of about 2 microns to about 6 microns and the spacing “d” is a range of about 6 microns to about 12 microns.

However, the width and spacing of the alignment marks are result effective variables that affect the proper alignment on a substrate. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have the recess have a width of about 2 microns to about 6 microns and the spacing “d” being in a range of about 6 microns to about 12 microns, in order to have adequate separation between the recesses of an alignment mark since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

6. Applicant's arguments filed 4/25/05 have been fully considered but they are not persuasive.

The new limitation “not belonging to the alignment mark” does not overcome the Kepler reference since the trench of the middle section 23 is separated by a section 22 and clearly does not belong to the alignment mark in the leftmost section 23.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eugene Lee
June 20, 2005

A handwritten signature in black ink, appearing to read "Eugene Lee", with a stylized, flowing script.